IN THE CLAIMS:

1. (Currently Amended) A fuel injector for metering, atomizing, and spray targeting fuel, the fuel injector comprising:

a seat including a passage extending along a longitudinal axis;

a movable member cooperating with the seat to permit and prevent a flow of fuel through the passage; and

a metering orifice disc including:

first and second surfaces, the first surface confronting the seat, and the second surface facing opposite the first surface;

a peripheral portion with respect to the longitudinal axis, the peripheral portion extending parallel to a base plane, and the base plane being generally orthogonal with respect to the longitudinal axis, the base plane comprising an interface of the seat and a peripheral portion of the first surface;

a central portion with respect to the longitudinal axis, the central portion being bounded by the peripheral portion and including a first facet extending parallel to a first plane, the first facet being coupled to the peripheral portion along a first peripheral segment, and the first plane being oblique with respect to the base plane; and

a first orifice penetrating the first facet and being defined by a first wall coupling the first and second surfaces, the first orifice extending along a first orifice axis, and the first orifice axis being oblique with respect to the first plane such that an orientation of the first orifice with respect to the longitudinal axis is defined by a combination of a first relationship of the first plane with respect to the base plane and a second relationship of the first orifice axis with respect to the first plane,

wherein the central portion of the first surface comprises an apex and a perpendicular height of the apex with respect to the base plane, and there is a generally direct correlation between the apex height and the orientation of the first orifice with respect to the longitudinal axis.

2. (Original) The fuel injector according to claim 1, wherein the first surface is generally parallel to the second surface.

3. (Original) The fuel injector according to claim 1, wherein the first surface and second surface comprise a planar surface extending away from the seat and oblique to the longitudinal axis.

4. (Currently Amended) The fuel injector according to claim 1, wherein the first surface and second surface comprise a planar surface extending towards ~~from~~ the seat and oblique to the longitudinal axis.

5. (Original) The fuel injector according to claim 3, wherein a sac volume is defined by the first surface of the metering orifice disc and the member cooperating with the seat to prevent the flow of fuel, and there is a generally direct correlation between the sac volume and the orientation of the first orifice with respect to the longitudinal axis.

6. Canceled

7. Canceled

8. (Currently Amended) A metering orifice disc for a fuel injector including a passage extending along a longitudinal axis between an inlet and an outlet, a closure member reciprocating along the longitudinal axis, and a seat proximate the outlet and cooperating with the closure member to permit and prevent a flow of fuel through the passage, the metering orifice disc comprising:

a member including first and second generally parallel surfaces, the first surface being adapted to generally confront the valve seat, and the second surface facing opposite the first surface, the member including:

a peripheral portion with respect to the longitudinal axis, the peripheral portion extending parallel to a base plane, and the base plane being generally orthogonal with respect to the longitudinal axis;

a central portion with respect to the longitudinal axis, the central portion being bounded by the peripheral portion and including a first facet extending parallel to a first plane, the first facet being coupled to the peripheral portion along a first peripheral segment, and the first plane being oblique with respect to the base plane; and

a first orifice penetrating the first facet and being defined by a first wall coupling the first and second surfaces, the first orifice extending along a first orifice axis, and the first orifice axis being oblique with respect to the first plane such that an orientation of the first orifice with respect to the longitudinal axis is defined by a combination of a first relationship of the first plane with respect to the base plane and a second relationship of the first orifice axis with respect to the first plane,

wherein the central portion of the first surface comprises an apex and a perpendicular height of the apex with respect to the base plane, and there is a generally direct correlation between the apex height and the orientation of the first orifice with respect to the longitudinal axis.

9. (Original) The metering orifice disc according to claim 8, wherein the central portion of the member comprises a second facet extending parallel to a second plane, the second facet being coupled to the peripheral portion along a second peripheral segment, and the second plane being oblique with respect to the base plane.

10. (Original) The metering orifice disc according to claim 9, wherein the second plane being oblique with respect to the first plane.

11. (Original) The metering orifice disc according to claim 10, wherein the second facet is coupled to the first facet along a first central segment.

12. (Original) The metering orifice disc according to claim 9, further comprising:

a second orifice penetrating the second facet and being defined by a second wall coupling the first and second surfaces, the second orifice extending along a second orifice axis, and the second orifice axis being oblique with respect to the second plane such that an orientation of the second orifice with respect to the longitudinal axis is defined by a combination of a third relationship of the second plane with respect to the base plane and a fourth relationship of the second orifice axis with respect to the second plane.

13. (Original) The metering orifice disc according to claim 12, wherein the second orifice axis is oblique with respect to the first orifice axis.

14. (Original) The metering orifice disc according to claim 13, wherein the longitudinal, first orifice, and second orifice axes are intersecting.

15. (Original) The metering orifice disc according to claim 12, wherein the central portion of the member comprises a third facet extending parallel to a third plane, the third facet being coupled to the peripheral portion along a third peripheral segment, and the third plane being oblique with respect to the base plane.

16. (Original) The metering orifice disc according to claim 15, wherein the third facet is non-penetrated, and the third facet is coupled to at least one of the first facet along a second central segment and the second facet along a third central segment.

17. (Original) The metering orifice disc according to claim 16, wherein the third facet is coupled to the first and second facets along the second and third central segments, respectively.

18. (Original) The metering orifice disc according to claim 8, wherein the first surface and second surface comprise a planar surface extending away from the seat and oblique to the longitudinal axis.

19. (Previously Presented) The metering orifice disc according to claim 8, wherein the first surface and second surface comprise a planar surface extending towards the seat and oblique to the longitudinal axis.

20. (Original) The metering orifice disc according to claim 8, wherein the first orifice has a diameter ranging between approximately 125 microns to approximately 600 microns.

21. (Currently Amended) A method of forming a metering orifice disc for a fuel injector, the metering orifice disc including a member including first and second surfaces extending substantially parallel to a base plane, the first and second surfaces being spaced along a longitudinal axis extending orthogonal with respect to the base plane, the first surface comprising an apex and a perpendicular height of the apex with respect to the base plane, the method comprising:

forming a first orifice penetrating the member, the first orifice being defined by a first wall coupling the first and second surfaces, and the first orifice extending along a first orifice axis oblique with respect to the longitudinal axis; ~~and~~

forming a first facet extending parallel to a first plane, the first facet being penetrated by the first orifice, and the first plane being oblique with respect to the base plane; and

ensuring that a generally direct correlation exists between the height of the apex and the orientation of the first orifice with respect to the longitudinal axis.

22. (Original) The method according to claim 21, wherein the forming the first orifice comprises at least one of punching, drilling, shaving, and coining.

23. (Original) The method according to claim 21, wherein the forming the first facet comprises at least one stamping and punch forming.

24. (Original) The method according to claim 21, comprising:

forming a second orifice penetrating the member so provided, the second orifice being defined by a second wall coupling the first and second surfaces, and the second orifice extending along a second orifice axis oblique with respect to the longitudinal axis.

25. (Previously Presented) The method according to claim 24, wherein the forming the member so penetrated comprises forming a second facet extending parallel to a second plane, the second facet being penetrated by the second orifice, and the second plane being oblique with respect to the base plane.

26. (Previously Presented) The method according to claim 25, wherein the forming the member so penetrated comprises forming a third facet extending parallel to a third plane, and the third plane being oblique with respect to the base plane.

27. (Previously Presented) The method according to claim 26, wherein the forming the member so penetrated comprises forming the first surface as a concave surface and forming the second surface as a convex surface.